

**ABSTRACT**

A method and apparatus for providing orthogonal spot beams (14a, 14b), sectors (16a, 16b), and picocells (18), by using orthogonal auxiliary pilots and different Walsh traffic channels in adjacent areas. According to the IS-95 standard, the pilot signal is covered with the 64-chip Walsh sequence zero. Designating the 64-chip all zeros Walsh sequence as P and the 64-chip all one sequence as M, additional pilot signals are provided in the present invention by concatenating the P and the M sequences. Thus, for two pilot signals, pilot Walsh sequences of PP and PM can be used. For four pilot signals, pilot Walsh sequences of PPPP, PMPM, PPMM, and PMMP can be used. In general, the required number of pilot Walsh sequences can be generated by substituting each bit in an K-bit Walsh sequence with the 64-chip all zeros P or all ones M sequence, depending on the value of that bit.

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